What is claimed is:

1. A method of forming an optical device, the method comprising:

fusing portions of a plurality of optical fibers to form a fused fiber region;

cleaving the fused fiber region to form a fused end;

forming a spliced fiber by splicing an end of an independent optical fiber to the fused end such that the independent optical fiber is in optical communication with the plurality of optical fibers; and

reducing a cross-section of the spliced fiber to form an optical device propagating light with a lowest-order even mode.

2. The method of claim 1, wherein at least one of the independent optical fiber and the plurality of optical fibers is a single-mode fiber.

3. The method of claim 1, wherein the reducing step comprises heating and pulling the spliced fiber.

4. The method of claim 1 further comprising reducing the cross-section of the spliced fiber to less than about 50 μm.

5. The method of claim 1 further comprising forming the optical device such that the ratio of output from at least two of the plurality of optical fibers is independent of at least one of wavelength of light input into the independent optical fiber, polarization of light input into

the independent optical fiber, temperature of the optical device, and exposure of the optical device to ionizing radiation.

6. The method of claim 1 further comprising forming the optical device such that the spectral profile of light output from at least one of the plurality of optical fibers and is substantially the same as the spectral profile of light input into the independent optical fiber.

7. The method of claim 1 further comprising disposing a portion of the optical device in a casing.

8. A method of forming an optical device, the method comprising:

forming a hybrid fiber by splicing a coreless optical fiber to a first optical fiber;

fusing a portion of a second optical fiber to a portion of the hybrid fiber to form a fused fiber region; and

reducing a cross-section of the fused fiber region to form an optical device propagating light with a lowest-order even mode.

9. The method of claim 8, wherein at least one of the first and second optical fibers is a single-mode fiber.

10. The method of claim 8, wherein the reducing step comprises heating and pulling the fused fiber region.

11. The method of claim 8 further comprising reducing the cross-section of the spliced fiber to less than about 50 μm.

12. The method of claim 8 further comprising forming the optical device such that the ratio of output from the first optical fiber to output of a first end of the second optical fiber is independent of at least one of wavelength of light input into a second end of the second optical fiber, polarization of light input into a second end of the second optical fiber, temperature of the optical device, and exposure of the optical device to ionizing radiation.

13. The method of claim 8 further comprising forming the optical device such that the spectral profile of light output from the first optical fiber and a first end of the second optical fiber is substantially the same as the spectral profile of light input into a second end of the second optical fiber.

14. The method of claim 8 further comprising disposing a portion of the optical device in a casing.

15. The method of claim 8, wherein the fused fiber region comprises the second optical fiber and at least two hybrid fibers prior to the reducing step.

16. An optical device comprising:

an input region, the input region comprising a portion of a first optical fiber and a portion of a coreless optical fiber;

a fused fiber region in optical communication with the input region, a portion of the fused fiber region having a diameter less than that of the input region; and

an output region in optical communication with the fused fiber region, the output region comprising a portion of the first optical fiber and a second optical fiber;

wherein the input region, the fused fiber region, and the output region propagate a lowest-order even mode.

17. The optical device of claim 16, wherein at least one of the first and second optical fibers is a single-mode fiber.

18. The optical device of claim 16, wherein the cross-section of the fused fiber region is less than about 50 μm.

19. The optical device of claim 16, wherein the ratio of output from the first optical fiber to output of a first end of the second optical fiber is independent of at least one of wavelength of light input into a second end of the second optical fiber, polarization of light input into a second end of the second optical fiber, temperature of the optical device, and exposure of the optical device to ionizing radiation.

20. The optical device of claim 16, wherein further the spectral profile of light output from the first optical fiber and a first end of the second optical fiber is substantially the same as the spectral profile of light input into a second end of the second optical fiber.

21. The optical device of claim 16, wherein the optical device comprises a casing.

22. The optical device of claim 16, wherein:

the input region comprises a first optical fiber and portions of at least two coreless optical fibers; and

the output region comprises one more optical fiber than the number of coreless optical fibers.

23. An apparatus comprising a first optical fiber spliced to a fused end of at least two optical fibers, the first optical fiber and the fused end forming a spliced fiber region, the optical fibers only propagating light with a lowest-order even mode.

24. The optical device of claim 23, wherein at least one of the optical fibers is a single-mode fiber.

25. The optical device of claim 23, wherein the cross-section of the spliced fiber region is less than about 50 μm.

26. The optical device of claim 23, wherein the ratio of output from the at least two optical fibers is independent of at least one of wavelength of light input into the first optical fiber, polarization of light input into the first optical fiber, temperature of the optical device, and exposure of the optical device to ionizing radiation.

27. The optical device of claim 23, wherein further the spectral profile of light output from the at least two optical fibers is substantially the same as the spectral profile of light input into the first optical fiber.

28. The optical device of claim 23, wherein the optical device comprises a casing.